

Amendments to the Abstract:

~~The~~ An x-ray diagnostic imaging system of this invention is provided with: an x-ray irradiation unit for irradiating an object to be examined with x-rays; an x-ray diaphragm unit disposed in a direction of x-ray irradiation of the x-ray irradiation unit and for shielding the irradiated x-rays except for the x-rays irradiated on a portion used for obtaining an x-ray image of the object to be examined; an x-ray diaphragm setting unit for variably setting the x-ray shielded portion to be shielded by the x-ray diaphragm unit; an x-ray flat panel detector opposed to the x-ray irradiation unit via the object to be examined and imaging x-rays passed through the object to be examined as an x-ray image; an image processing unit for subjecting the x-ray image obtained by the x-ray flat panel detector to an image processing; and a display unit displaying the x-ray image. ~~subjected to the image processing by the image processing unit, wherein the~~ The image processing unit is provided with: includes a calculation unit reading out data of an x-ray detection element of the x-ray flat panel detector corresponding to the x-ray shielded portion which is variably set by the x-ray diaphragm setting unit and calculating a line noise component from the read out data of the x-ray detection element; and a line noise correction unit correcting a line noise of the x-ray image based on the line noise component calculated by the calculation unit.